Remarks/Arguments:

Claims 7-19 are pending.

Claims 1-6 are cancelled without prejudice or disclaimer.

Claims 7-16 are amended by specifying the "low-pressure gas" has a specific pressure range "of 0.1-5kg/cm^2" (described from page 21, line 25, to page 22, line 2, of the instant specification).

The "a pol(vinyl chloride)" subject matter is removed form claim 16.

New claims 17-19 are dependent on claims 14, 7, and 10, respectively, and contain negative, i.e., exclusionary limitations. Each of the new claims excludes "a poly(vinyl chloride)" from the subject matter of the claim on which it is dependent.

The presently claimed invention is characterized by the method of mechanically mixing and dispersing a one-pack type curing paste material and a low-pressure gas and by the process of performing the claimed method using a mechanical foaming apparatus. The presently claimed invention also provides a one-pack type curing paste material produced by the presently claimed method.

Claims 7-14 were rejected under 35 USC 103 as being allegedly obvious over Okuda and Takashi. Claims 15 and 16 were rejected under 35 USC 103 as being allegedly obvious over Okuda, Takashi, and Cobbs. Reconsideration of the rejections is requested.

Okuda et al. (EP 0 974 391) is silent about the type of high-viscosity material used as is acknowledged by the Examiner. In addition, shear rates thereof are not known from Okuda.

Accordingly, it is not known whether or not a cured product with dense uniform closed-cells can be produced even when the process or apparatus of the presently claimed invention is applied to the material.

Takashi et al. (JP 05-309329) discloses a "sealing material"—of vinyl chloride based plastisol—having a specified viscosity for spray-coating. No description or suggestion is made for its application to a mechanical foaming apparatus, as disclosed in Okuma. It is not obvious for those skilled in the art to use a "sealing material," known for use in spray-coating, in a mechanical foaming apparatus, such as disclosed in Okuda. Accordingly, the cited references provide no expectation (i.e., predictability) that a "sealing material"—of vinyl chloride based plastisol—would function successfully in the mechanical foaming apparatus, to effect a cured product with dense, uniform closed-cells, as taught by Okuda.

The rejection mistakenly relies on MPEP 2141, arguing substituting material of Takashi in place of material used by Okuda constitutes substituting one equivalent for another. MPEP 2141 concerns the substitution of "art recognized" equivalents, which the materials of Takashi with respect to those of Okuda are not.

With all due respect, the PTO takes Okuda's "high viscosity material" out of context in finding it a substitutable equivalent with respect to Takashi's "sealing material." "One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fine*, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988).

> It is impermissible within the framework of §103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of

> other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.

In re Hedges, 228 USPQ 685, 687 (Fed. Cir. 1986). Teachings of the prior art must be taken as a whole in an obviousness analysis. *Ryko Manufacturing Co. v. Nu-Star, Inc.*, 21 USPQ2d 1053 (Fed. Cir. 1991).

Looking at the complete teachings of each cited reference, for a "full appreciation of what such reference fairly suggests to one of ordinary skill in the art," *Hedges*, 228 USPQ at 687, Takashi teaches a process that discharges a liquid composition containing only the "sealing material"—a "plastisol of vinyl chloride"—from an apparatus that heats and spray-coats the liquid material "into, e.g. [the] joint line of steel plates of [the] body of a car to give a homogeneous thickness and width" (emphasis added. On the other hand, Okuda's process does not discharge a liquid, homogeneous composition, containing only the disclosed "high viscosity material." Okuda discloses a process and device that produce and "discharge" a two-phase material, i.e., a gas-in-solid dispersion, as a foam.

Accordingly (as stated above), the cited references provide no expectation (i.e., predictability) that a "sealing material"—of vinyl chloride based plastisol—would function successfully in the mechanical foaming apparatus, to effect a cured product with dense, uniform closed-cells, as taught by Okuda. The cited Okuda and Takashi provide no more than that (1) a vinyl plastisol liquid "sealing material" and (2) a mechanical foaming process and apparatus were both separately known. Nothing in the record supports that it was known to impregnate the vinyl

plastisol liquid "sealing material" with a gas, let alone whether such a gas-impregnated, vinyl plastisol would be useful in a mechanical foaming process and apparatus. The fact that all elements of a claimed invention are known does not, by itself, make the combination obvious. *Ex parte Clapp*, 227 USPQ 972 (BPA&I 1985). It must be remembered that

> invention itself is the process of combining prior art in a nonobvious manner [*citations, omitted*]. Therefore, even when the level of skill is high, the . . . [USPTO] must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination.

In re Rouffet, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998).

As mentioned above, the record provides no expectation, i.e., predictability, the Takashi's "sealing material" would work in Okuda's process and apparatus. A *predictable result* is indispensible to making a prima facie showing of obviousness under §103(a). *See KSR International Co. v. Teleflex, Inc.*, 550 U.S. ___, 127 SCt 1727, 82 USPQ2d 1385 (2007), i.e. (emphasis added):

> The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. . . .
> [W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. . . .
> When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. Sakraida and Anderson's-Black Rock are illustrative—a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. . . .

> When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.

Moreover, the PTO has the burden of showing—based on prior art—that a *predictable result* can be *expected*. It is necessary "that the prior art itself further provide some foreseeability or predictability" that a material—disclosed in one reference—will function as does an alleged equivalent—in a second reference. *In re Kratz*, 201 USPQ 71, 76 (CCPA 1979) ("We have previously rejected the argument that undirected skill of one in the pertinent art is an adequate substitute for statutory prior art").

The only way to arrive at the presently claimed invention, based on the teachings of Okuda and Takashi, is to use the teachings of the presently claimed invention as a blueprint, which of course involves the improper use of hindsight.

> . . . it is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention.

Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988).

> The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not, because *it* may *doubt* that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis.

In re Warner, 154 USPQ 173, 178 (CCPA 1967) (*emphasis original*). An argument by the PTO is "not prior art." *In re Rijckaert*, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). "It is facts which

must support the legal conclusion of obviousness." *Ex parte Crissy*, 201 USPQ 689, 695 (POBdApp 1976).

In view of the foregoing remarks, the rejection of claims 7-14 under §103(a), based on the combined teachings of Okuda and Takashi, is overcome. Withdrawal of the rejection appears to be in order.

The §103(a) rejection (of claims 15 and 16) based on Okuda, Takashi, and Cobbs fails since Cobbs (US 4,778,631) necessarily requires a high pressure gas: Examples 1-5 of Cobbs (columns 12-15) require a high-pressure gas of at least 250 psi (Examples 4 and 5), which can be converted to at least 17.6 kgf/cm^2 (1 kgf = 14.2 psi). In contrast, the presently claimed invention requires a specific, low-pressure gas of "0.1-5 kgf/cm^2," which is neither taught nor suggested in the cited reference.

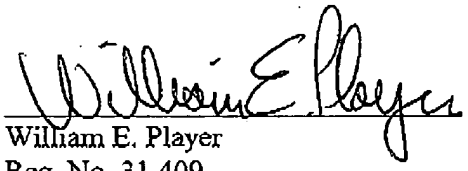
In view of the foregoing remarks, the rejection of claims 15 and 16 under §103(a), based on the combined teachings of Okuda, Takashi, and Cobbs is overcome. Withdrawal of the rejection appears to be in order.

Each of new claims 17-19 is not rejectable under §103(a) based on the cited references, taken alone or in combination. Each of claims 17-19 excludes "a poly(vinyl chloride)," i.e., the "sealing material" disclosed in Takashi, on which the PTO relies to meet the "paste material" limitation in the rejected claims. Claims can be amended to exclude a disclosed embodiment in order to overcome a rejection relying on a reference for its disclosure of the embodiment. *See In re Johnson*, 194 USPQ 187 (CCPA 1977). Since the negative limitation is not found in Takashi,

all limitations on each of claims 17-19 are not met by the cited references. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art," *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970), "and it is error to ignore specific limitations distinguishing over the [prior art] reference." *Ex parte Murphy*, 217 USPQ 479, 481 (PO Bd. App. 1982).

Favorable action is requested.

Respectfully submitted,



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